SIT 9.2.3

Final
Remedial Investigation Work Plan
City Parcel Site

Spokane, Washington

Prepared for:

Washington State Department of Ecology
Eastern Regional Office
Spokane, Washington

Under Ecology contract number C9800045
Work assignment SAI24

Prepared by:

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TITLE PAGE

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1. INTRODUCTION

This work plan provides background information and describes the activities planned for completion of a remedial investigation (RI) at the City Parcel Site, located at N. 708 Cook Street in Spokane, WA. The site was formerly occupied by Spokane Transformer, Inc., which operated at the location from 1961 through 1979. Spokane Transformer, Inc. was a transformer repair and recycling business performing repairs of electrical transformers and manufacturing new transformers at the site.

The purpose of the RI is to supplement existing data to determine the nature and extent of contamination by hazardous substances [as defined by RCW 70.105D.020(7)] at the City Parcel Site. The RI will collect data necessary to adequately characterize the site for developing and evaluating cleanup action alternatives.

The Washington State Department of Ecology (Ecology) has contracted with Science Applications International Corporation (SAIC) to complete the remedial investigation at the City Parcel Site. The work will be performed under Ecology contract number C9800045, work assignment SAI24.

Historic soil samples have been obtained from the site intermittently over the past 25 years. Two groundwater samples – associated with a monitoring well installed in 1997 – have been collected from the site for analysis. The chemical analysis data for the soil and groundwater samples is summarized later in this work plan. The historic soil sample data indicate that surface and subsurface soils at the site are contaminated with polychlorinated biphenyls (PCBs), chlorinated volatile organic compounds, and petroleum hydrocarbons. Existing groundwater sample data are inconclusive regarding the possibility of groundwater contamination at the site.

Concern over PCB toxicity and persistence in the environment led the U.S. Congress in 1976 to enact §6(e) of the Toxic Substances Control Act (TSCA). The legislation included, among other things, prohibitions on the manufacture, processing, and distribution in commerce of PCBs.

Polychlorinated biphenyls are mixtures of synthetic organic chemicals with the same basic chemical structure and similar physical properties ranging from oily liquids to waxy solids. Due to their non-flammability, chemical stability, high boiling point and electrical insulating properties, PCBs were historically used in hundreds of applications including serving as a heat sink in electrical equipment such as transformers. The production of PCBs was halted in the United States in 1977 (EPA 2001).

The work to be completed under this RI will include:

- A study of site physical features (storm water drainage patterns, floor drain discharge points, former underground tank locations, utility locations, etc.).
- A soil investigation to evaluate the nature and extent of PCB, TPH, and volatile organic compound contamination in surface and subsurface soils on the site and in an adjacent property. Data from a variety of other measurements (e.g., geotechnical soil tests and

soil/groundwater indicator parameters) will also be collected during the RI. This additional data will help serve the data needs during the selection of cleanup alternatives at a later date.

- A groundwater investigation to evaluate the nature and extent of PCB and TPH contamination in groundwater (if any) associated with soil contamination present at the site.

1.1 Regulatory Overview

The requirements for a remedial investigation are found in the Model Toxics Control Act (MTCA) Cleanup Regulation, WAC 173-340-350. This RI Work Plan conforms with the MTCA regulations (as appropriate to the site), and addresses the following RI requirements in WAC 173-340-350:

- General facility information is provided, including contact information for the Ecology site manager and contractor staff, facility location and dimensions, a legal description of the property, present and past owners, facility operational history, and other pertinent facility information.
- Information regarding present land use and zoning for the site is included.
- Existing data on the site is summarized. Results from the site hazard assessment and other site inspections are presented.
- A site conditions map is included to illustrate the relevant current site features and historic sample data results.
- A preliminary conceptual site model is included. The conceptual site model identifies potential or suspected sources of hazardous substances, types of hazardous substances, potentially contaminated media, and actual and potential exposure pathways and receptors. This information may be used in the future to plan site-specific risk assessment activities[1].
- A description of the field investigation activities to be completed during the RI is included. The methodologies described in this RI Work Plan will be followed during the onsite investigations (to be completed later). The field investigations include a study of the site's physical features (drainage patterns, drain line tracing, utility line locations, well locations), a soil investigation, and a ground water investigation.

The following items are not included or addressed in this RI Work Plan. The rationale for excluding the listed items is included in the discussion below.

- A detailed description of field sampling activities is not included in this work plan. The detailed sampling and analysis procedures are described in the Sampling and Analysis Plan

[1] Completion of a human health risk assessment and terrestrial ecological evaluation is not addressed in this RI Work Plan. A site-specific risk assessment may be completed in the future. The conceptual site model presents an overview of potential exposure pathways and receptors based on site observations and historical sample data only.

(SAP) – which includes the Field Sampling Plan (FSP) and Quality Assurance Project Plan (QAPP). The SAP is provided as a separate document.

- An evaluation of feasible cleanup alternatives is not addressed in this RI Work Plan. The development and review of cleanup alternatives (Feasibility Study) will be completed at a later date using the information gathered during the RI.
- A determination of appropriate cleanup levels is not addressed in this RI Work Plan. Site-specific cleanup levels may be determined later using information gathered during this RI. For the purpose of selecting laboratory detection limits for the contaminants of concern, this RI Work Plan assumes that MTCA Method A residential cleanup levels will apply.

1.2 General Facility Information and Land Use

The name and location of the City Parcel Site is as follows:

City Parcel, Inc.
708 N. Cook Street
Spokane, WA 99202

Latitude: 117° 22' 51.74"
Longitude: 47° 39' 23.62"

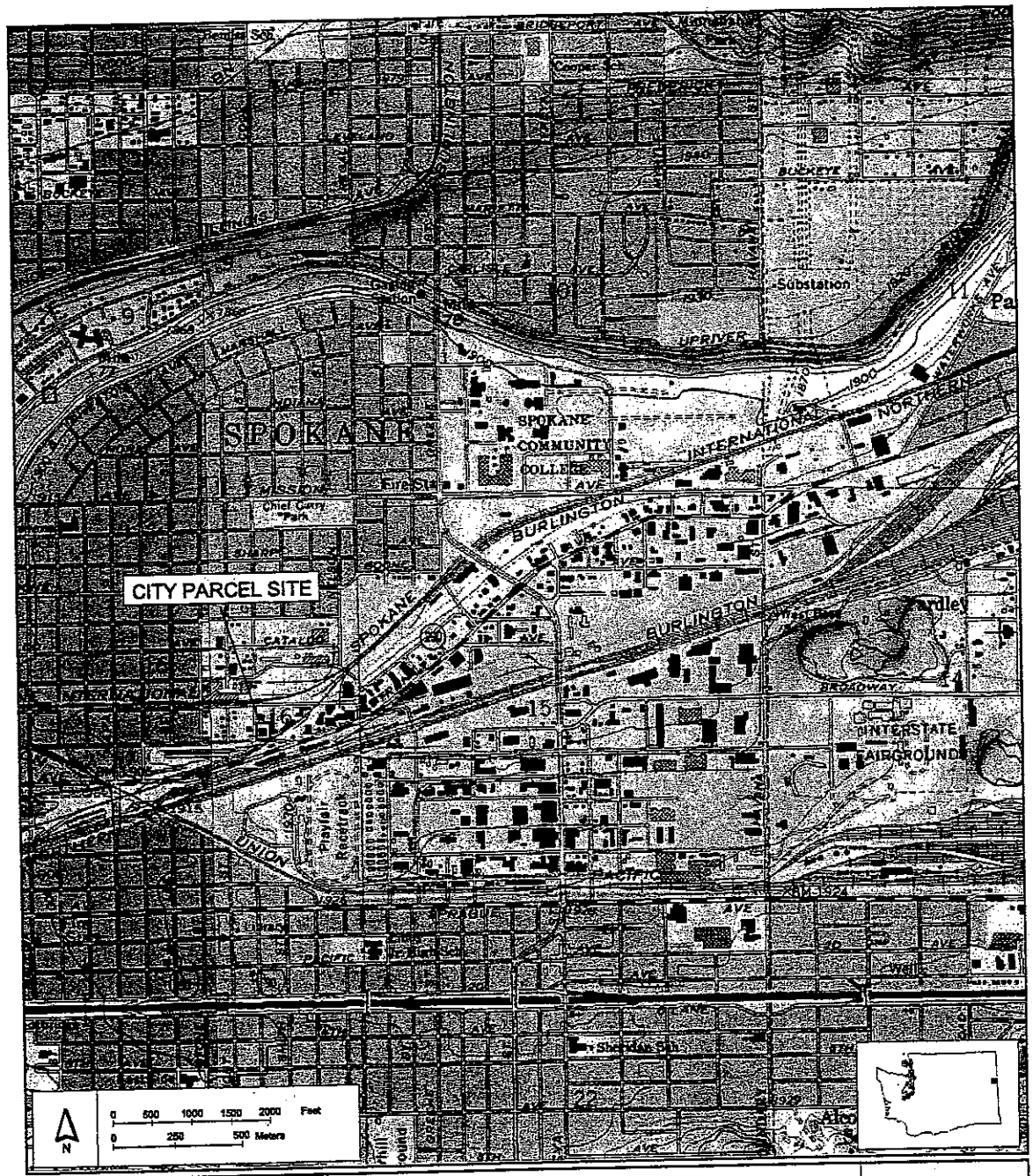
The City Parcel Site is located in Spokane County, Washington. The site is located in the SE ¼ section 16, Township 25, N., Range, 43 E. of the USGS 71/2 minute quadrangle for Spokane NE. The site is at the intersection of North Cook Street and East Springfield Avenue just north and west of the Burlington Northern Santa Fe Railroad. Figure 1 contains a site map depicting the location of the property in relationship to local geographical features.

The City Parcel Site is a commercially zoned lot (M2 light industrial) of approximately 28,400 square feet (142' X 200'). One permanent structure is located at the site. The structure is a combination masonry block and steel-sided building that covers approximately 19,000 square feet (or roughly 67%) of the property. A fenced gravel parking area is located to the north of the building. The gravel parking area also serves as an outdoor storage area for vehicles and other equipment.

1.3 Contact Information

The points of contact for the Ecology Site Manager, Ecology Hydrogeologist, SAIC Project Manager and SAIC Field Supervisor are listed below.

Project Role	Name and Title	Contact Information
Ecology Site Manager	Ms. Teresita Bala, Ph.D.; Environmental Engineer	Department of Ecology Eastern Regional Office 4601 N. Monroe, Suite 100 Spokane, WA 99205 Tel: 509-456-6337
Ecology Hydrogeologist	Mr. Guy Gregory; Senior Hydrogeologist	Department of Ecology Eastern Regional Office 4601 N. Monroe, Suite 100 Spokane, WA 99205 Tel: 509-456-6387
SAIC Project Manager	Mr. David Goodwin; Senior Chemical Engineer	SAIC 18960 State Hwy 305 NE Suite 200 Poulsbo, WA 98370 Tel: 360-779-7292
SAIC Field Manager	Mr. Glenn Haupt; Hydrogeologist	SAIC 18706 North Creek Parkway Suite 110 Bothell, WA 98011 Tel: 425-482-3309



City Parcel Site Remedial Investigation	Figure 1 City Parcel Site Location Spokane, WA	SAIC

Figure 1: City Parcel Site Location Map

1.4 Facility Owners

The past and present owners of the City Parcel Site are listed below (Ecology 2001).

Company Name	Owner	Period of Ownership
Spokane Transformer, Inc.	Mr. Richard Boyce	1961 – 1974
Spokane Transformer, Inc.	Mr. Jerry Overton	1974 – 1979
City Parcel, Inc.	Mr. Paul Gisselberg	1979 – present

1.5 Physical Setting and Hydrogeology

Figure 1 above contains a site location map for the City Parcel Site. The Site is located approximately three-quarters of a mile southeast of the Spokane River, and three-quarters of a mile southwest of Spokane Community College. Libby Junior High School is located roughly one-half mile to the south-southeast of the City Parcel Site.

The City Parcel Site is located on flat terrain and is predominantly surrounded by commercial-light industrial land use. There are a few residences proximate to the site that appear to be associated with the surrounding commercial activities. The City Parcel Site is a commercially zoned lot with zoning classification "M2 light industrial" (SRHD 1998).

The City Parcel Site is situated over the Spokane Valley-Rathdrum Prairie Aquifer, which is designated as a "sole source" aquifer for this region (USGS 1987). Undisturbed surficial soil in the area is composed of the Garrison gravelly loam of the Garrison series (SCS 1986).

Area wells typically show topsoil to a depth of 2 to 3 feet lying above sand, gravel, and cobbles which extend to a depth in excess of 100-feet below ground surface (bgs). The static water level reported on driller's logs for wells within a one-mile radius from the site range from 25- to 85-feet bgs (Ecology 1987).

The regional direction of groundwater flow is toward the northwest, following the general surface gradient of the Spokane Valley. The Spokane River located 0.75 miles west of the site is used for recreation, hydroelectric power generation, and irrigation. It is topographically downgradient of the site (USGS, 1987).

The configuration of the existing structure on the City Parcel site is roughly a square shape. The east side of the building is located within a few feet of a public access alleyway. The alleyway separates the City Parcel property from an adjoining property to the east (John Barrier Trust Property). The south wall of the City Parcel Building faces Springfield Avenue. The west wall faces Cook Street. The north wall of the structure adjoins a fenced gravel parking/storage area. The gravel-covered area extends from the north wall of the building to the northern property line.

Figure 2 contains an aerial photograph of the City Parcel site from 1979 that depicts the property borders and clearly shows the existing structure from an overhead perspective.

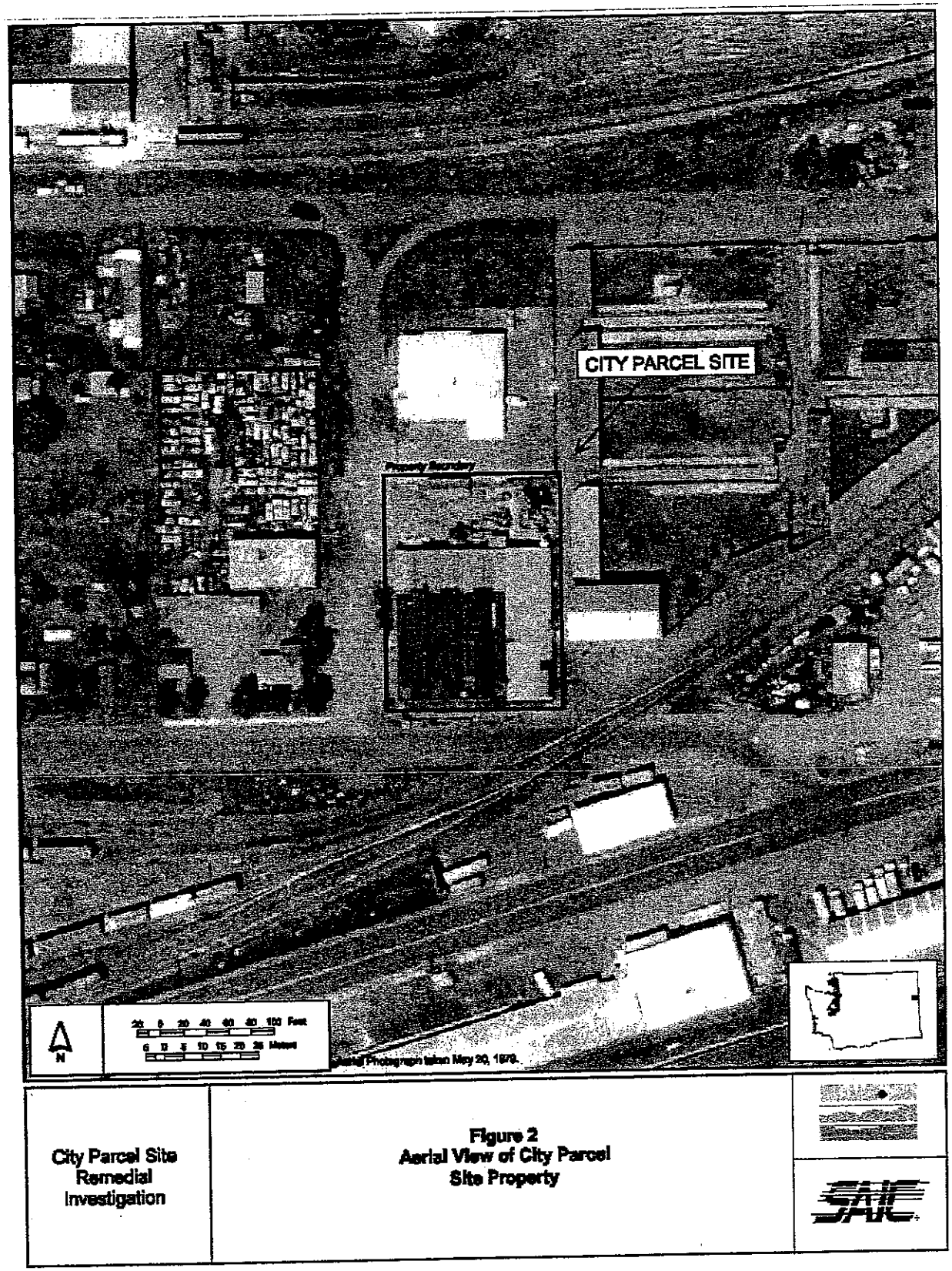


Figure 2: Aerial View of City Parcel Site Property (1979)

1.6 Site History

Historical records of past usage of the subject property indicate that the onsite structure was initially constructed around 1945 and was used as a service garage and cabinet shop (SRHD 1998). The site was occupied by Spokane Transformer, Inc. in 1961, and the company operated at the site until 1979. Spokane Transformer, Inc. was a transformer repair and recycling business that performed repairs of electrical transformers and manufactured new transformers at the site.

Mr. Richard Boyce owned and operated Spokane Transformer, Inc. from 1961 until 1974. Mr. Jerry Overton purchased the Spokane Transformer business from Mr. Boyce in 1974. Mr. Overton owned and operated Spokane Transformer, Inc. until 1979 (Ecology 2001). In 1979, the 0.65-acre property was sold to Mr. Paul Gisselberg. Mr. Gisselberg has operated City Parcel Inc., a package delivery service, at the site since 1979 (SRHD 1998).

Historic aerial photographs obtained for the site indicate that the onsite structure was expanded on two occasions. Between 1967 and 1969, an extension of approximately 30 feet was added along the north side of the building. Between 1969 and 1979 the east side of the building was extended approximately 30 feet toward the east property line.

1.7 Environmental Conditions

This section provides an overview of the existing information on the environmental conditions at the City Parcel Site. The environmental conditions information has been gathered from a number of limited site investigations completed for EPA, the property owner, and Ecology over the past 25 years.

The presence of PCBs, VOCs and petroleum hydrocarbons has been confirmed (through historic sampling activities) in surface and subsurface soils at the City Parcel Site. The suspected source of the PCB contamination to soil is the release of PCB-containing fluids (i.e., dielectric "transformer oil") to soil at the site. Dielectric fluids containing PCBs were widely used in electrical transformers until the 1970's due to their chemical stability, thermal properties, and excellent performance in transformer applications.

In response to growing concerns about the human health and ecological impacts of PCBs, the federal government halted the production of PCBs in the United States in 1977. Since 1997, the presence of PCB-containing fluids in electrical transformers has been phased out as old equipment is repaired and/or replaced.

Previous limited investigations conducted on several occasions at the site have detected PCBs in soils at levels above those allowed by the Model Toxics Control Act (MTCA). One groundwater sample (obtained in November 1997) was also reported to contain PCBs above the MTCA limit.

The U.S. Environmental Protection Agency (EPA) conducted investigations at the site in 1976, 1986, and 1987. During the 1976 investigation, two soil samples obtained outside the operations building were found to contain 150 and 16,400 ppm PCBs. In 1986, EPA collected two storm drain sediment samples with total PCB concentrations of 14 ppm (corner of Cook St. and Springfield Ave.) and 370 ppm (southeast driveway/alley). Additionally, the 1986 investigation

collected two soil samples with reported total PCB concentrations of 2,400 ppm (east side of the building) and 20 ppm (south half of building).

In 1987, Ecology & Environment Inc., as a contractor to EPA, conducted a sampling program inside and outside the building. Scrape samples collected from work area surfaces inside the building indicated total PCB contamination ranging from 233 to 416 ppm. Floor drain sediment samples contained up to 64,600 ppm PCBs. Additionally, surface soil PCB contamination was found at a maximum concentration of 7,657 ppm, and shallow subsurface contamination (6 to 12 inches below the ground) was documented at up to 708 ppm. Off-site migration of PCB contamination via adjacent storm drains was also noted during the investigation. Chlorinated volatile organic compounds were also detected in three soil samples that were selected for those analyses. For a graphic depiction of historic sample locations and contamination levels at the City Parcel Site, refer to Figure 3, "City Parcel Site – Historic Sample Results."

MTCA Method A soil cleanup standards for PCBs are 1 ppm for unrestricted land use and 10 ppm for industrial properties (Ecology 2001). The following maximum concentrations were documented as a result of the three EPA investigations performed at the City Parcel Site in 1976, 1986, and 1987.

- 16,400 ppm PCBs in soils
- 64,600 ppm PCBs in drain sediments inside the building
- 416 ppm PCBs in floor and wall scrape samples inside the building
- 681 ppm PCBs in sediment samples from storm drains adjacent to the property.

In 1997, George Maddox & Associates, Inc. (GMA), working for Mr. Paul Gisselberg, owner of City Parcel, collected soil samples from inside and outside the building, dry wells, and an alleyway on the east side of the building. The on-site soils collected during the investigation contained up to 536 ppm PCBs. The soil from one of the dry wells onsite contained total PCBs at 8,230 ppm. The total PCB concentrations from soil samples obtained along the alleyway on the east side of the property ranged from 59 to 1,620 ppm.

During the 1997 investigation, a monitoring well was installed adjacent to a dry well near the southeast corner of the property. Soil samples from the well installation showed that the highest PCB concentration of 30.7 ppm was measured at the 10-12 foot depth. PCBs were detected in soil samples collected from 10-36 ft. deep and from 50-62 ft. deep. Ground water was encountered at about 53 ft. below ground surface.

One initial groundwater sample obtained from the well was extremely turbid and laboratory analysis showed the PCB concentration in groundwater to be 2.88 parts per billion (ppb). The MTCA Method A standard for PCB mixtures in groundwater is 0.1 ppb. The sampling contractor believed the PCB contamination encountered in the initial groundwater sample was not representative of ambient groundwater conditions. The cause of the PCB contamination was thought to be the result of soil contamination during the well installation. The groundwater well was re-sampled with longer purge times in January 1998, and the resulting analysis indicated no detectable level of PCBs (GMA 1998).

In 1997, under the authority of MTCA, Ecology conducted an initial investigation of the site and an early notice letter was sent to Mr. Gisselberg requiring further remedial action. Mr. Gisselberg submitted a proposed independent cleanup plan to Ecology for review under the Voluntary Cleanup Program in 1998 to which Ecology provided written review comments.

The Spokane Regional Health District completed a site hazard assessment (SHA) of the property in 1998, as required under MTCA. The site was ranked a "2." A ranking of "1" represents the highest risk and "5" the lowest.

In December 2000, Mr. John Barrier, owner of the adjacent "John Barrier Trust Property" (JBTP) located to the east of the City Parcel Site, contracted with the Lambert Group, Inc. (LGI) to complete a limited investigation of suspect PCB-containing soils. The study involved the excavation of 5 test pits located along the western property line of the JBTP. Test pits were needed to access native soils because the property had been re-graded with fill dirt material in recent years. A total of 10 soil samples were collected for PCB analysis. Nine of the 10 samples showed PCB levels ranging from 2.0 ppm to 9.9 ppm PCBs (LGI 2001).

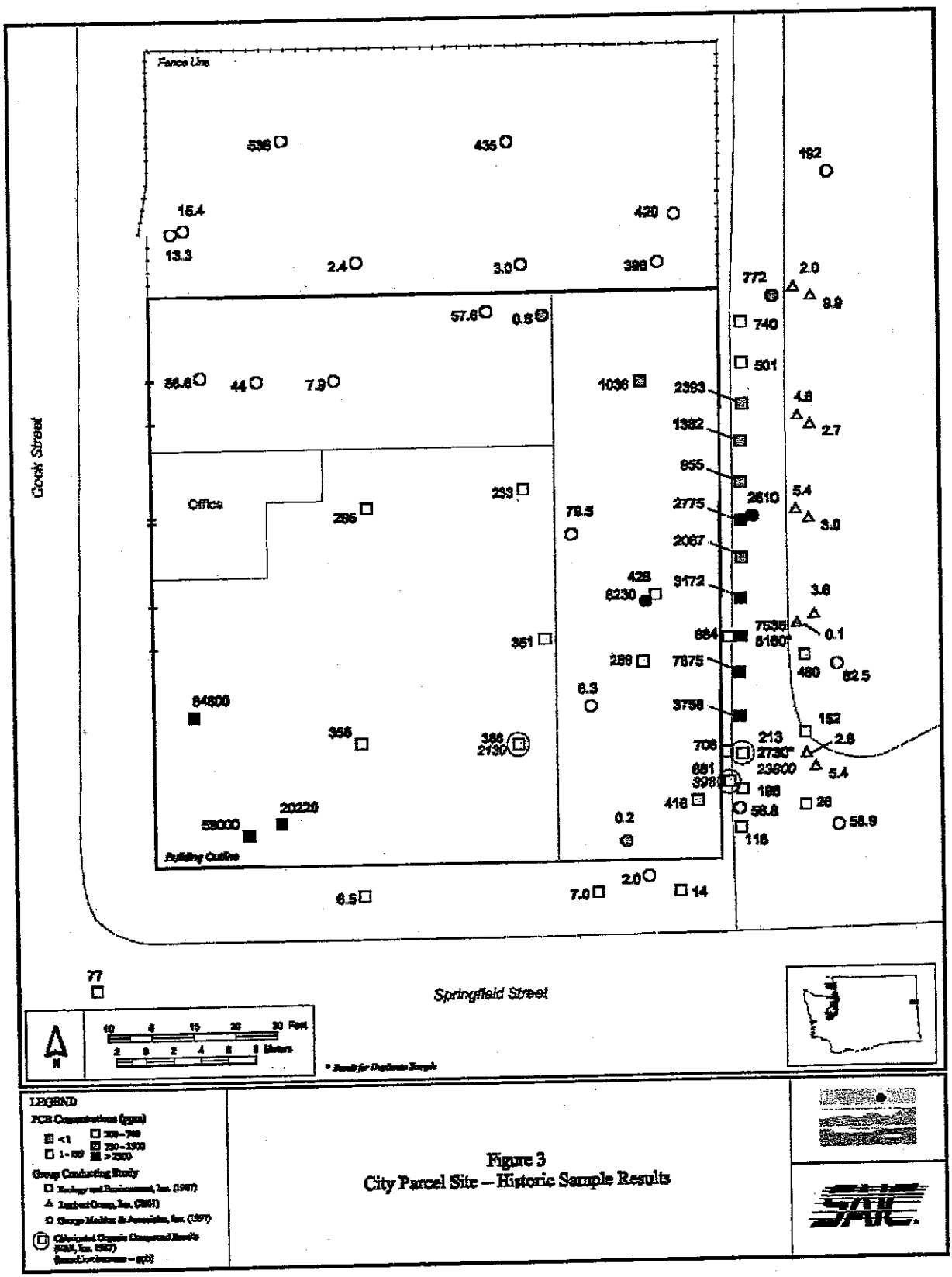


Figure 3: City Parcel Site - Historic Sample Results